

Claims:

1. An immunological carrier system comprising a chimeric protein, said chimeric protein comprising a leukotoxin polypeptide, or a protein substantially homologous thereto, fused to a selected antigen, whereby said leukotoxin portion of said chimeric protein acts to increase the immunogenicity of said antigen.
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- 10 2. The carrier system of claim 1 wherein said leukotoxin polypeptide is a truncated leukotoxin.
- 15 3. The carrier system of claim 2 wherein said truncated leukotoxin is LKT 352.
4. The carrier system of claim 1 wherein said selected antigen is somatostatin (SRIF), or an epitope thereof.
- 20 5. The carrier system of claim 4 wherein said chimeric protein comprises the amino acid sequence depicted in Figure 6, or an amino acid sequence substantially homologous and functionally equivalent thereto.
- 25 6. The carrier system of claim 1 wherein said selected antigen is gonadotropin releasing hormone (GnRH), or an epitope thereof.
- 30 7. The carrier system of claim 6 wherein said chimeric protein comprises the amino acid sequence depicted in Figure 8, or an amino acid sequence substantially homologous and functionally equivalent thereto.
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8. The carrier system of claim 1 wherein said selected antigen is bovine rotavirus VP4, or an epitope thereof.

5 9. The carrier system of claim 8 wherein said chimeric protein comprises the amino acid sequence depicted in Figure 10, or an amino acid sequence substantially homologous and functionally equivalent thereto.

10 10. A vaccine composition comprising the chimeric protein of claim 1 and a pharmaceutically acceptable vehicle.

15 11. A vaccine composition comprising the chimeric protein of claim 4 and a pharmaceutically acceptable vehicle.

20 12. A vaccine composition comprising the chimeric protein of claim 6 and a pharmaceutically acceptable vehicle.

25 13. A vaccine composition comprising the chimeric protein of claim 8 and a pharmaceutically acceptable vehicle.

30 14. A method for presenting a selected antigen to a subject comprising administering to said subject an effective amount of a vaccine composition according to claim 10.

35 15. A method for presenting a selected antigen to a subject comprising administering to said subject an effective amount of a vaccine composition according to claim 11.

16. A method for presenting a select d antigen to a subject comprising administering to said subject an effective amount of a vaccine composition according to claim 12.

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17. A method for presenting a selected antigen to a subject comprising administering to said subject an effective amount of a vaccine composition according to claim 13.

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18. A DNA construct encoding the chimeric protein of claim 1, said DNA construct comprising a first nucleotide sequence encoding a leukotoxin polypeptide, or a protein substantially homologous thereto, operably linked to a second nucleotide sequence encoding said selected antigen.

19. The DNA construct of claim 18 wherein said second nucleotide sequence encodes somatostatin (SRIF), or an epitope thereof.

20. The DNA construct of claim 19 comprising the nucleotide sequence depicted in Figure 6 or a nucleotide sequence substantially homologous and functionally equivalent thereto.

21. The DNA construct of claim 18 wherein said second nucleotide sequence encodes gonadotropin releasing hormone (GnRH), or an epitope thereof.

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22. The DNA construct of claim 21 comprising the nucleotide sequence depicted in Figure 8 or a nucleotide sequence substantially homologous and functionally equivalent thereto.

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23. The DNA construct of claim 18 wherein said second nucleotide sequence encodes bovine rotavirus VP4, or an epitope thereof.

5 24. The DNA construct of claim 23 comprising the nucleotide sequence depicted in Figure 10 or a nucleotide sequence substantially homologous and functionally equivalent thereto.

10 25. An expression cassette comprised of:
(a) the DNA construct of claim 18; and
(b) control sequences that direct the transcription of said construct whereby said construct can be transcribed and translated in a host cell.

15 26. An expression cassette comprised of:
(a) the DNA construct of claim 19; and
(b) control sequences that direct the transcription of said construct whereby said construct can be transcribed and translated in a host cell.

20 27. An expression cassette comprised of:
(a) the DNA construct of claim 21; and
(b) control sequences that direct the transcription of said construct whereby said construct can be transcribed and translated in a host cell.

25 28. An expression cassette comprised of:
(a) the DNA construct of claim 23; and
(b) control sequences that direct the transcription of said construct whereby said construct can be transcribed and translated in a host cell.

30 29. A host cell stably transformed with the expression cassette of claim 25.

30. A host cell stably transformed with the expression cassette of claim 26.

31. A host cell stably transformed with the 5 plasmid of claim 27.

32. A host cell stably transformed with the plasmid of claim 28.

10 33. A method of producing a recombinant polypeptide comprising:

(a) providing a population of host cells according to claim 29; and

15 (b) growing said population of cells under conditions whereby the polypeptide encoded by said expression cassette is expressed.

34. A method of producing a recombinant polypeptide comprising:

20 (a) providing a population of host cells according to claim 30; and

(b) growing said population of cells under conditions whereby the polypeptide encoded by said expression cassette is expressed.

25 35. A method of producing a recombinant polypeptide comprising:

(a) providing a population of host cells according to claim 31; and

30 (b) growing said population of cells under conditions whereby the polypeptide encoded by said expression cassette is expressed.

35 36. A method of producing a recombinant polypeptide comprising:

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-47-

(a) providing a population of host cells according to claim 32; and

5 (b) growing said population of cells under conditions whereby the polypeptide encoded by said expression cassette is expressed.

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